

**Summary Report  
of the  
Tsunami Hazard Mitigation Steering Group Meeting  
November 6-7, 2003  
Seattle, Washington**

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**Attendees**

**Steering Group**

Eddie Bernard - NOAA (Chair)  
Frank González - NOAA  
Jeff LaDouce - NOAA  
James Partain - NOAA/NWS (Acting)  
Landry Bernard - NOAA/NDBC  
Chris Jonientz-Trisler - DHS/FEMA-X  
Michael Hornick - DHS/FEMA-IX  
Craig Weaver - USGS  
David Oppenheimer - USGS  
Richard Eisner - State of California

Michael Reichle - CA State Geologist (Acting)  
Brian Yanagi - State of Hawaii  
Sterling Yong - State of Hawaii  
Roger Hansen - State of Alaska  
Gary Brown - State of Alaska (Alt.)  
Rodney Combellick - AK Geologist (Acting)  
Mark Darienzo - State of Oregon  
George Priest - State of Oregon  
George Crawford - State of Washington  
Timothy Walsh - State of Washington

**Guests**

Charles McCreery - NOAA/PTWC  
Bruce Knipe - FEMA  
Shannon McArthur - NOAA/NDBC  
Don Hoirup - CA Geological Survey  
Ervin Petty - State of Alaska (Alt.)  
Jonathan Allan - State of Oregon (Alt.)  
Steven Hammond - NOAA  
Jean Newman - NOAA/Tsunami Project

Paul Whitmore - NOAA/WCATWC  
Steve Gallagher - NOAA/NWS  
Vasily Titov - NOAA/TIME Center  
Angie, Venturato - NOAA/TIME Center  
Marie Eble - NOAA/ Tsunami Project  
Mike Mahoney - DHS/FEMA  
Harold Mofjeld - NOAA/Tsunami Project

**Introduction Members and Guests**

Eddie Bernard welcomed everyone and had each member/guest introduce themselves.

**Review of Action Items from the May 2003 Meeting:**

**1. ACTION ITEM:** Craig Weaver, Chip McCreery, and Dave Oppenheimer are to identify a NOAA EMWIN specialist to work on the real-time earthquake display proposal.

**ACTION:** Craig Weaver, Chip McCreery, David Oppenheimer

**STATUS:** David Investigated and it was determined that an off-the shelf product could provide the solution for the earthquake display proposal. The [display](#) has been linked to our web site. **CLOSED**

**2. ACTION ITEM:** Chip McCreery is to talk to Jeff LaDouce to request that a tsunami warning coordination meeting be held before November 2003. Frank González will put together a menu of options of tsunami warning products by July 1, 2003, and send out the URL of his report.

**ACTION:** Chip McCreery, Jeff LaDouce, Frank González

**STATUS:** Meeting is scheduled for March 2-4, 2004, in Honolulu, Hawaii. **CLOSED**

**3. ACTION ITEM:** Frank González will prepare a 1-pager on quality control for inundation mapping and distribute it to the states.

**ACTION:** Frank González

**STATUS:** This information is included in the TIME Report. **CLOSED**

**4. ACTION ITEM:** The Fall 2003 NTHMP Steering Group Meeting will be held November 6 and 7, 2003, at PMEL in Seattle. Each Steering Group Member was asked to supply names of people that we need to invite to the meeting. Invitees should be with organizations that have a vested interest in our program.

**ACTION:** All

**STATUS:** Members supplied the chairman with names of requested invitees. **CLOSED**

**5. ACTION ITEM:** Brian Yanagi (with the help of the Mitigation Subcommittee) will write a draft letter that can be sent to Congressional members requesting additional funds needed for the proposed data delivery system and for increasing the scope of the program to include Guam, Puerto Rico, etc., by June 15.

**ACTION:** Brian Yanagi, Mitigation Subcommittee

**STATUS:** Brian Yanagi drafted a letter that was sent to Senators Inouye and Akaka and Representatives Abercrombie and Case on July 16, 2003. **CLOSED**

**6. ACTION ITEM:** Charles McCreery will hold a CREST coordination meeting with WC/ATWC, David

Oppenheimer, Roger Hansen (AEIC), and a representative from the Hawaii Volcano Observatory to review seismic system data communications efficiency improvements prior to November 2003. Charles will also hold a meeting of the water level specialists to review the present practices and recommend improvements before November 2003.

**ACTION:** Charles McCreery, David Oppenheimer, Roger Hansen

**STATUS:** Coordination has taken place toward a new 5-year plan. A formal meeting was not needed.  
**ONGOING**

**7. ACTION ITEM:** The Mitigation Subcommittee will decide on a mitigation budget structure and send to Eddie Bernard via e-mail by June 30. Eddie will include a Mitigation line item on his spreadsheet.

**ACTION:** Mitigation Subcommittee

**STATUS:** The budget structure was determined and e-mailed to Eddie Bernard. **CLOSED**

**8. ACTION ITEM:** Frank González will draft a letter for Jeff LaDouce (NWS) to send to NOS concerning upgrades to coastal tide gauges by July 1, 2003.

**ACTION:** Frank González, Jeff LaDouce

**STATUS:** Letter has been drafted. As part of NOAA's PPBS, 100% capacity for tide gauges has been identified. **CLOSED**

**9. ACTION ITEM:** The group wanted to know the makeup of the tsuhaz e-mail list. They also wanted to formulate a separate e-mail list for just steering group members with no additional interested parties included as has been done in the tsuhaz e-mail list. Ann Thomason will e-mail the tsuhaz e-mail list components to each person attending this meeting. Eddie Bernard will have a separate members list formulated by June 30.

**ACTION:** Eddie Bernard

**STATUS:** The tsuhaz e-mail list was sent to meeting participants. A members only list was also formulated and sent to members. **CLOSED**

## **Review of Action Items from the November 2002 Meeting:**

**1. ACTION ITEM:** Find out what information customers want on earthquakes to NWS and USGS Regional Networks so the MOU can be updated in light of new technology so there will be a clarification of procedures and better coordination of warnings. Dick Hagemeyer suggested the following four steps: 1) find out what the customers want 2) agree to a standard format, 3) obtain headquarters approval to place on NOAA Weather Radio and EMWIN, and 4) determine how to get the information to those will put the messages on NOAA Weather Radio and

**EMWIN.**

**ACTION:** Oppenheimer, LaDouce, Hansen

**STATUS:** This item was replaced by Action Item 1 from the May 2003 meeting (above). The [real-time earthquake display](#) is up and running on the USGS web site. **CLOSED**

**2. ACTION ITEM: The recommendation letter on Warning Center 24/7 operation drafted in response to the August 2001 Review is to be sent to NOAA and USGS in a timely manner.**

**ACTION:** Bernard, Weyman, Przywarty

**STATUS:** This item has been incorporated in the new Warning Guidance Goals Statement: "The USGS, NOAA, and state agencies disseminate their automated, reviewed earthquake and tsunami notifications as rapidly as is scientifically and technologically possible. Automated notification of preliminary hypocenter and magnitude should be provided within 2 minutes after receipt of sufficient seismological information at observing networks and reviewed information should be provided in 5 minutes." **CLOSED**

**3. ACTION ITEM: Write a report on research interest, ranking priorities and identifying a list of representatives at other agencies. Draft is due by January 2002 to Eric Geist, USGS. Final report due April 2002 for review by the full NTHMP Steering Group.**

**ACTION:** Tsunami Research and Advisory Committee (TRAC)

**STATUS:** Frank González attended NSF conference and reported on research needs. No written report produced. TRAC has been replaced by the NTHMP Technical Advisory Committee. **CLOSED**

**4. ACTION ITEM: Begin interaction with National Science Foundation and NWS to draft a Tsunami Research Institute Plan and find funding sources.**

**ACTION:** Bernard, González

**STATUS:** Frank González attended an NSF meeting and presented research needs. There is a new NSF Program Manager, Juan Pestana who comes on board January 2004. Funds are flowing and the new Tsunami Wave Simulator at Oregon State University is open for researchers' use. The latest NRC report on the NEES Project specifically specifies the link between NEES and the NTHM. **CLOSED**

**5. ACTION ITEM: A working group needs to develop a draft document on mapping certification procedures by May 2002.**

**ACTION:** Frank González will chair a working group to prepare a draft of mapping certification procedures. Working group named includes: Rich Eisner, Tim Walsh, Gerard Fryer, Doug Luther,

George Priest, Lori Dengler, Vasily Titov, Costas Synolakis, Elena Suleimani, and Antonio Baptista.

**STATUS:** Draft of mapping certification has been prepared and is covered in the TIME report.  
**CLOSED**

**6. ACTION ITEM:** Draft a Strategic Plan on how to interface with the Federal Response Plan in case of an event. the States need defined data collection activities. The subcommittee will review the NOAA Response Plan document and how it interacts with the states and report at the next meeting.

**ACTION:** Chris Jonientz-Trisler to draft Strategic Plan, Subcommittee to report on review of the NOAA Response Plan and how it interacts with the states.

**STATUS:** James Partain forwarded name of the person responsible for the National Response Plan to Eddie Bernard and Chris Jonientz-Trisler. The concept of the National Response Plan has changed since the Department of Homeland Security has taken over. The subcommittee will continue to work on the draft Strategic Plan. **OPEN**

**7. ACTION ITEM:** Draft a letter to USAPI to request a specific needs assessment before membership in the NTHMP.

**ACTION:** Yanagi, Jonientz-Trisler

**STATUS:** Letter written, has not been sent however information has been conveyed verbally to some agencies. Eddie Bernard to check on status. **OPEN**

**8. ACTION ITEM:** Enhanced mitigation budgets need to be formulated and coordinated.

**ACTION:** States to formulate new enhanced mitigation budgets, Chris Jonientz-Trisler to coordinate enhanced mitigation budgets for discussion at the Spring 2003 meeting.

**STATUS:** Enhanced mitigation budgets were discussed and voted upon at the May 2003 meeting.  
**CLOSED.**

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## **Richard H. Hagemeyer Award**

There was no Hagemeyer Award presented this year as those chosen to review the two award nominations felt the nominations were not proper. It was decided that a nomination committee should be formed for next year.

## **Status of Natural Hazards Special Issue on the National Tsunami Hazard**

# Mitigation Program

There have been 11 papers submitted for this special issue. One paper is still due from Charles McCreery. Eddie Bernard hopes to be able to submit to the publisher by the end of November.

## Progress Report of Program Elements

### [Develop State/NOAA Coordination and Technical Support](#)

Steve Gallagher, NWS Chief Financial Officer, gave a brief overview of the new NOAA Planning, Programming, Budgeting System (PPBS). The objective of PPBS is to build better budget numbers into the President's Budget. The near-term goals for the tsunami group are to smooth the transition of the NTHMP from the Office of Oceanic and Atmospheric Research (OAR) to the National Weather Service (NWS) and to get NTHMP full budget requirements into the President's Budget Request for FY 06 and beyond.

Jeff LaDouce reported on the coordination efforts during FY 03 and said that he will continue efforts to consolidate the historical tsunami database in the Pacific into a non-copywrited CD for distribution. He also stated that he is working on a laptop version of the arrival time program.

He stated that the earmarks in the works in the Senate are for an additional \$600K for additional Pacific observations and \$2m for the Tsunami Warning and Environmental Observatory for Alaska (TWEAK).

### [Tsunami Detection Buoys](#)

Landry Bernard reported that the operational transition of the DART buoy network from the Pacific Marine Environmental Laboratory (PMEL) to the National Data Buoy Center (NDBC) has been completed. The DART network has been integrated into the NDBC web site. PMEL's Next Generation DART system has been deployed.

### [Produce Inundation Maps](#)

Frank González gave a brief overview of the services that the TIME Center provides. He also reported on the mapping and modeling activities of the TIME Center during the past year, including a report on [Tsunami Forecasting System Implementation](#).

### [Develop Hazard Mitigation Programs](#)

Chris Jonientz-Trisler presented the mitigation subcommittee report which discussed the national Engineering Project, the cost increases in the publication of TsuInfo Alert, the Bridge concept proposal, incorporating tsunami into HAZUS, and the 2003 local warning system re-survey.

The [national Engineering Project](#) core proposal is divided into phases. The first phase would include a workshop and data collection led by Washington State. The next phases would be lead by FEMA. NTHMP costs of \$100K would be matched by \$100K from FEMA. The product of the proposal would be a design guidance document for critical buildings and vertical evacuation use.

Craig Weaver said that the earthquake response plan interaction with the NOAA response plan needs to be examined to be sure that tsunami is included.

**NEW ACTION ITEM 1:** The USGS earthquake response plan and the NOAA response plans need to be examined to be sure that tsunami is included in both plans.

**ACTION:** Craig Weaver

George Crawford briefed the group on his [Proof of Concept proposal for the NOAA Weather Radio on a Pole for the City of Seattle](#). The City of Seattle wants to know if the NTHMP would be interested in funding the pilot as a proof on concept. There are currently six wind-powered All Hazards Alert Broadcast (AHAB) units installed in Washington State. This is an opportunity for the National Tsunami Hazard Mitigation Program to show that high population communities can deal with all hazards. It is also an opportunity to emphasize the use of NOAA Weather Radio for an application not originally envisioned by its designers. Steve Gallagher (NWS) and Craig Weaver (USGS) both said there is considerable Congressional and NOAA interest in the NOAA Weather Radio on a Pole project. The Steering Group agreed to provide \$90K to fund the proposal. The City of Seattle will match our funds with \$190K from other sources.

Rich Eisner also pointed out that we need to begin work on a new strategic plan for 2005 and beyond. Eddie Bernard stated that the program is addressing the 14 goals set forth in the current 5-year plan. which ends in 2005. It was agreed that we should begin to take these goals and formulate a new 5-year plan.

**NEW ACTION ITEM 2:** Take the 14 program goals and formulate a new 5-year plan. Jeff LaDouce asked volunteers who would like to help develop the new 5-year plan to e-mail him. He will arrange a teleconference with all volunteers before the holidays to begin work on the plan. The May 2004 meeting will be dedicated to finalizing this 5-year plan including a schedule of accomplishment. At the end of the meeting, everyone should leave with a draft of the new plan.

**ACTION:** Jeff LaDouce, Rich Eisner, volunteers

Each State reported on their FY 03 activities:

[Alaska report](#)

[California report](#)

[Hawaii report](#)

[Oregon report](#)

[Washington report](#)

## Improve Seismic Networks

David Oppenheimer reported on the work done during FY 03 on the Consolidated Reporting of Earthquakes and Tsunamis (CREST) seismic project. The installation phase of the CREST project is nearly complete with 51 of 53 stations installed. The Remaining two stations are scheduled to be installed by the end of 2003, weather permitting.

The [Real-time Earthquake Display](#) project began activities in the last quarter of FY 03 and focused on two tasks: 1) Identifying sites for installing the prototype earthquake display systems, and 2) preparation of a contract to enhance the California Integrated Seismic Network (CISN) Display software to facilitate its use by emergency responders in all regions of the U.S., Puerto Rico, and Guam.

## **FY 04 Budget**

At meeting time, both the U.S. Senate and House has draft budget (marks) of \$4.3m for the Tsunami Hazard Mitigation Program (the Program) with some possible increases. Currently NOAA is under a Continuing Resolution. The bill is currently in conference and it appears that the appropriations bill may not be passed until mid to late December.

Based on the uncertainty of the amount of an FY04 budget as well as when the budget appropriations will be passed, each of the states and program elements were asked to submit proposals for core funding of \$4.3 m. This amount represents the funding currently available in the continuing resolution.

The Steering Group unanimously approved the [core budgets](#) as submitted. Votes on the core proposals (with comments, if any) from the 5 states and 3 agencies were recorded on ballots, initialed, and provided to the Chairman. Discussions on possible additional funding were postponed until the Spring 2004 meeting awaiting a budget appropriation from Congress. Each program element was advised to have proposals for the remainder of the undedicated funding ready prior to the May 2004 meeting.

## **NOAA Transition**

The National Tsunami Hazard Mitigation Program Steering Group Chair was transferred to Jeff LaDouce at the meeting. The funds transfer activities will remain with PMEL as well as the maintenance of the web site.

Jeff LaDouce asked each state to write a proposal for \$35K, but scalable, for Administrative Funds for FY 04.

## **Technical Advisory Committee**



The Technical Advisory Committee will be formed in response to Action Items 3 and 4 from the November 2002 Meeting (above). The chair of this committee will be Eddie Bernard. It is anticipated that the panel members will be the reviewers from the 2001 Program Review. Eddie Bernard will contact each reviewer and request they serve on the Technical Advisory Panel.

**NEW ACTION ITEM 3:** Form a Technical Advisory Panel. The panel will be chaired by Eddie Bernard and consist of the reviewers from the 2001 Program Review and the NSF Advisor, Juan Pestana.

**ACTION:** Eddie Bernard will contact the reviewers (Prof. H. Kanamori, Prof. P.L.-F. Liu, Prof. D. Luther, Prof. D. Mileti, and Mr. R. J. McCarthy) from the 2001 Program Review concerning serving on the Technical Advisory Panel.

Eddie Bernard said the new NSF advisor, Juan Pestana, is a member of this body and will be in place January 1, 2004. In addition, the National Research Council report: "Preventing Earthquake Disasters: The Grand Challenge in Earthquake Engineering, A Research Agenda for the Network for Earthquake Engineering Simulation (NEES)," states on page 89 of the report: "Work with the National Tsunami Hazard Mitigation Program, a three agency/five state partnership led by the National Oceanic and Atmospheric Administration (NOAA) to define research needs, so the NEES program can best support NOAA's mission realizing that NOAA is responsible for the Nation's tsunami warning system."

## Education of the Public and Social Issues

It was agreed by the group that more discussion is needed on the issues of educating the public about what to do in the event of a tsunami and the social issues involved in response to tsunami aftermaths. In order to do this Jeff LaDouce suggested bringing in two visiting experts at the next meeting, one a social scientist and one a science expert. He also suggested inviting a social scientist to the Coordination meeting in March. Jeff LaDouce asked the Steering Group to have a set of focused questions ready for discussion. It was also suggested that the media (national and local) be invited to attend the November meeting as well as local WCMs and an NSF presenter.

**NEW ACTION ITEM 4:** Provide names of presenters for future meetings, e.g., social scientists, local emergency managers and WCMs, national and local media, and researchers. Jeff LaDouce will prepare the agendas and invite the presenters.

**ACTION:** All will provide names of possible presenters, Jeff LaDouce will invite.

## New Brochure Review

Ann Thomason presented copies of the proposed new program brochure to each attendee for critique. There were many suggestions for improving the brochure. A new draft, incorporating the changes, will be forwarded to the steering group members for comment when it has been revised by the PMEL Graphics Department.

**NEW ACTION ITEM 5:** Rework the brochure draft and send out to steering group members for

comment.

**ACTION:** PMEL

## **FEMA Presentation by Bruce Knipe**

[The Bridge for Disseminating Real Time Technical Assistance and Coordinating Community Protective Action Recommendations](#) concept proposal seeks to incorporate the NTHMP and NOAA into the National Response Plan using an approach based on the Hurricane Liaison Team. The Steering Group was asked if they had an interest in pursuing this concept and to designate a venue for further exploration. Bruce Knipe from FEMA explained this operational communications proposal in detail on Friday and it was agreed that the group would like more information. The Hurricane Liaison Team (HLT) will be asked to make a presentation to the Steering Group either at the March 2004 Coordination Meeting in Honolulu or at the Fall 2004 Steering Group meeting. Following the HLT presentation, the Steering Group will hold a workshop to discuss preparing a proposal and determining who would champion that proposal.

**NEW ACTION ITEM 6:** Explore issues and challenges of developing a concept called "Bridge for Disseminating Real Time Technical Assistance and Coordinating Community Protective Action Recommendations" at the March 2004 Warning Coordination Workshop. First step: FEMA will bring a member of the Hurricane Liaison Team (HLT) to present their "lessons learned." Second step: discuss potential adaptation of elements. Third step: capture future directions and recommendations.

**ACTION:** Jeff LaDouce and Chris Jonientz-Trisler

## **[Report on International Tsunami Information Center Activities for FY 2003](#)**

### **Dates and Locations for next three meetings**

1. The Tsunami Coordination Meeting will be held in Honolulu, HI, March 2-4, 2004
2. The spring Steering Group Meeting will be held in Anchorage, AK, May 18-20, 2004. Focus of the meeting will be to finalize the new 5-year plan and to distribute any additional funds.
3. The fall Steering Group Meeting will be held in Honolulu, HI, in November 2004--exact dates to be determined at the spring meeting.